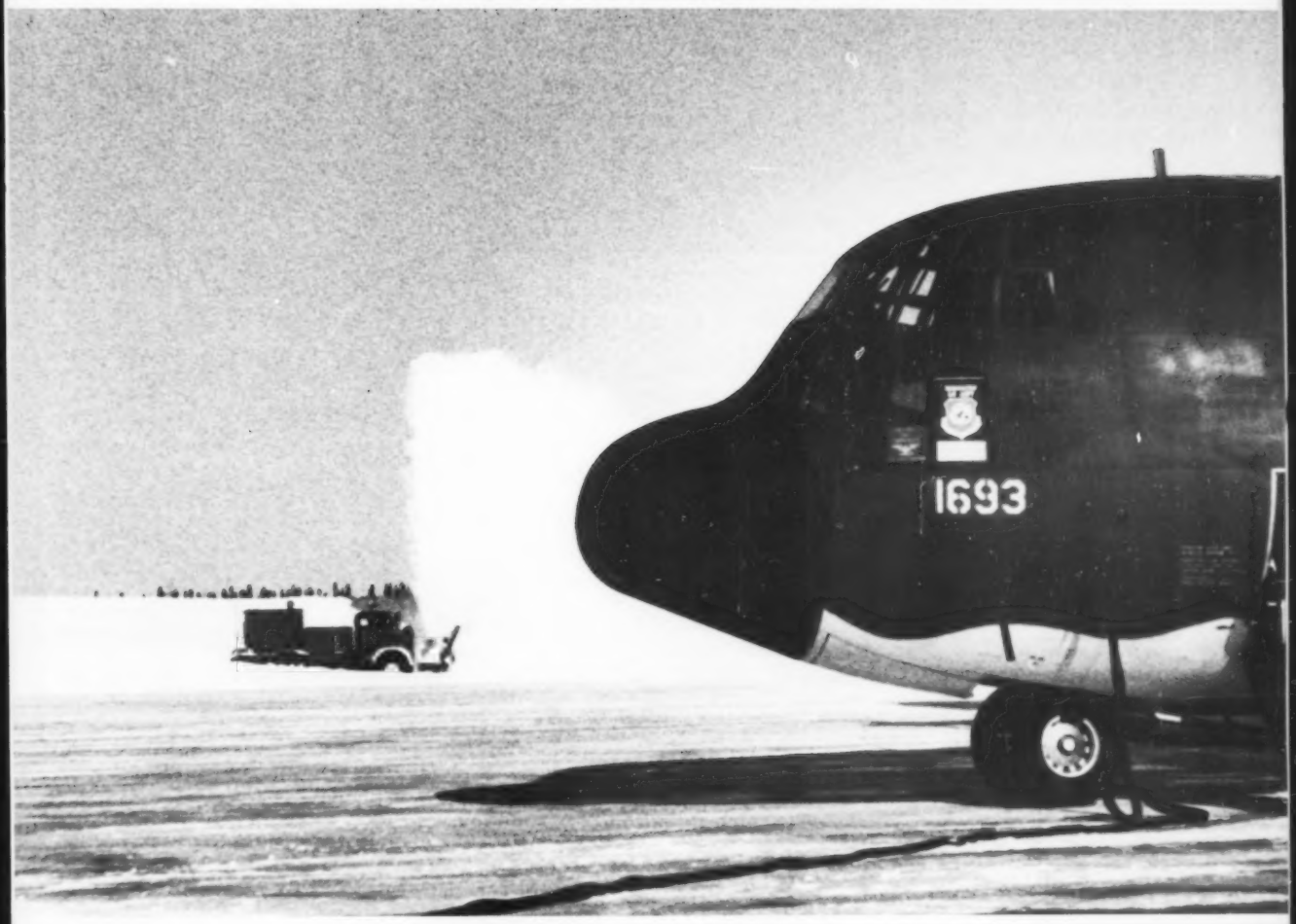
# The MAC Flyer

NOVEMBER 1981

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# The MAC Flyer

MILITARY AIRLIFT COMMAND

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For Greater Safety and Efficiency in MAC Air Operations.

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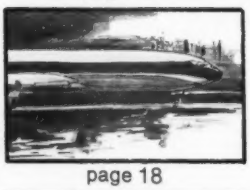

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## Flyer Call

Starting this month, we have a new feature called "Allied Airlifters." In case you'd like to know how we decided to include this feature in *The MAC Flyer*, the decision process started one Friday afternoon well past normal working hours.

"Hey, Boss! I just came up with this scathingly brilliant idea. Let's launch a new center-spread pictorial along the lines of 'Airlift Legacy.' But in this one, instead of older airplanes, we present allied airlift planes. We might even call it 'Allied Airlifters.' Sounds like a great new feature, eh?"

"Go for it, young associate editor. You got it," directed the supervising editor.

And so we offer this new feature for your edification and enjoyment. There are a couple of reasons we feel you'll enjoy "Allied Airlifters." It's not only "nice to know" information, but you can never tell when it'll come in handy, i.e., aircraft identification. We also have a very fine staff Art Director, Tommy O'Laughlin, and the new feature gives us one more opportunity to share his talents with each of you.

So, read on. Look. Enjoy and fly safe!

**BH**

Cover Photo by: 1Lt Al Tyler

# That Time of Year

Yessiree, folks! Dust off those IBMs, Remingtons and Underwoods. Sharpen those bonded #2's. The frost is on the pumpkin and it's once again time for the contest you've all been waiting for—the 1982 MAC Flying Safety Writing Contest. The rules are simple, so read on.

• Who Can Enter? Anyone and everyone! If your entry qualifies for judging under the rules, you will receive a colorful C.R. Terror "fly safe" T-shirt and a free one-year subscription to *The MAC Flyer*.

• Official prizes (What you can win). The top three winners receive beautiful personalized desk sets. If your entry receives an Honorable Mention, you'll get a handsome wall plaque to attest to your literary derring-do. However, only Air Force active duty and Air Reserve Forces (AFRES and ANG) military members and DAF civilians are eligible to receive official prizes. We can publish, however, other entries for special-category recognition.

• Rules (How to win). Base your masterpiece on fact, fiction or fantasy. It can be prose or poetry or any combination thereof. Winners have done it in *almost* every conceivable way. This is your chance to display your flair and style. Entries can be technical or philosophical, humorous or serious. The only hard rule is to have a safety message embedded somewhere within your entry. Prose should be 1,000 to 3,000 words—roughly 6 to 14 double-spaced typed pages. Poetry may be shorter, but should still be in the neighborhood of 70 to 100 lines.

Submit your entry in two copies identified by title only. Attach a cover sheet with your name, address, unit, T-shirt size and a short biographical sketch that we can use for the "About the Author" blurb at the end of the story. So avoid the rush and get your entry in long before the 31 March 1982 deadline.

Mail your literary gem to:
**Writing Contest**
**HQ MAC/IGFE**
**Scott AFB, Illinois 62225**

# Winter Operations

It's that time again when we begin to run headlong into the many hazards of winter flying. Since many cold weather difficulties are encountered on the ground, we'll begin there.

• **Flight Planning**. Weather can be the most significant factor affecting flight planning in the winter. When severe weather conditions exist at our destination we can expect greater holding times and possible flight diversions due to messy field conditions, low ceilings or poor visibility.

• **Preflight**. Although removal of snow, ice or frost is normally a maintenance function, the flight crew should be especially alert to its presence around the aircraft and the airfield environment.

Frost is a light, feathery, crystalline ice that forms on the exposed surfaces of a parked aircraft when the temperature of the surfaces is below freezing (the free air temperature may be above freezing). This deposit of ice forms during night radiational cooling, just like the frost on the pumpkin, or on t the windshield of your car, especially when you've misplaced your scraper. Frost is a most deceptive form of icing. It affects the lift-drag ratio of an aircraft and is a definite hazard during takeoff. As far as flying safety is concerned, there is no such thing as "a little frost" on aircraft surfaces. Even *some* frost is too much.

During the winter, ports and inlets on aircraft can become clogged with ice and snow. During exterior inspections, a thorough check should be made for accumulations of snow, ice, slush and even sand. Check full movement of all controls

# Review

after completion of snow and ice removal. Trim tabs should also be operated through the full travel range.

If sand has been spread on the ramp for traction, check that it is free of pebbles and stones. FOD is the consideration here, of course. In addition to being ingestible, these pebbles and stones, as well as accumulations of loose ice particles, can become dangerous flying missiles when they are jet-blasted around the ramp.

• **Taxiing**. Taxi slowly on icy surfaces as if no brakes were available, and exercise extreme caution when braking. On ramp areas ice makes stopping difficult, nose wheel steering less effective, and it can make precise parking a problem by covering ramp markings. If you can't see the markings, neither can the guy parking next to you. In close quarters, always request the assistance of wing walkers. Remember the 25 and 10-foot clearance criteria are *minimum* distances based on "normal" circumstances. Surface conditions away from the ramp may differ from those existing in your parking spot, because deicing fluids dripping from airplanes tend to melt the ice on the parking ramp. When snow piles up along the edges of taxiways, it can cover the lights and directional signs, and if it gets high enough, snow piles or drifts can create obstructions to the overhanging wings and engines. If you taxi through jet or prop blast in light blowing snow, enough of the white stuff can be blown onto the fuselage to melt and then refreeze in a thin film over static ports.

Snowbanks resulting from newly plowed runways are another taxi hazard. The danger is greatest when airports have just been reopened after a heavy snow fall. The pressure is always on to reopen an airfield quickly, so adopt a "buyer beware" attitude on taxi clearances at times like these. Just one dig-in of a C-141 outboard nacelle, for example, can be very expensive, either because of immediate damage, or because of subsequent engine failure caused by snow and ice ingestion. Fully extended flaps can also take hits from lurking drifts. Snowbanks *do*, indeed, crop up at the most inopportune places.

• **Takeoff**. Non-migratory local birds may also become an airport hazard in winter. As the weather gets colder, they like to loiter near the runway and other surfaces that continue to radiate warmth after sunset. They are also attracted by the salt used for snow removal or the vegetation exposed by the same process.

And don't forget the treacherous threesome: standing water, slush and wet snow. In excessive amounts, they pose a major hazard, so check your particular aircraft's Dash One for specific guidance and limitations. At takeoff speeds these items have the viscosity and resistance of molasses, and create wheel drag that considerably increase takeoff distances.

• **Climb, Cruise, and descent**. Weather forecasters will normally brief the potential for icing. Moderate to severe icing can be a problem, especially in the areas of extensive nimbostratus clouds and precipitation. These icing conditions may often occur in the tops of stratocumulus, south of the Great Lakes and off the East Coast.

• **Reduced visibility**. Reduced visibility is a frequent occurrence in winter operations. This lessened visibility is accompanied by an increased necessity for instrument approaches. It's also accompanied by an increase in the number of short landings, hard landings and overshoots.

Instrument approach procedures have been carefully formulated to facilitate the smoothest possible transition from instrument to visual flight, particularly at the lowest visibility minimums. Under such circumstances, it is essential to know what visual cues to look for and how much of the approach lighting system you can expect to see. Vision angles play an important role here. These include glide slope angle, drift angle, angle of attack, and the angle of over-the-nose visibility. The latter is dependent upon aircraft type and seat adjustment. In winter, with reduced visibility always a possibility, executing a missed approach procedure may become a safety-of-flight necessity.

• **Approach and landing** . Pilots have reported many cases of illusory visual effects in snowy conditions. The effect of swirling snow can produce vertigo and "white-out" when the ground and sky seem to merge and the horizon becomes indistinguishable. The only reliable attitude reference then available may be an artificial horizon.

On landing, wet or icy runways require much greater stopping distances. Slush or water create potential hydroplaning problems. The tremendous forces of spashing water or slush can cause damage to flaps, engines or other components. Loose snow on runways can obscure visibility when blown forward during reversing. All these factors make it essential to keep constantly advised of runway conditions. Furthermore, unusual runway conditions you encounter should be reported for the benefit of fellow pilots.

Slippery runways are not always the result of precipitation accompanied by low temperatures. Fuel and rubber residue with a measure of moisture added can produce a surprisingly slick surface, with the emphasis on surprise. This mixture has caused numerous overruns and, with the presence of brisk crosswinds, has caused many an unplanned excursion off the side of a runway.

Winter generally brings on a certain amount of surface deterioration. If runways and taxiways become pocked with holes, ditches or accumulations of loose debris, the conditions should be reported. There is also the possibility of sand ingestion by turbojet equipment. Engine oil systems, nacelles and wing cavities can be contaminated with sand, especially during takeoffs and reverse thrust operations.

There also seems to be a seasonal crop of new obstructions, temporary buildings, etc., that should be reported. In fact, knowledge of any unusual new conditions that spring up at any airport should be made available to fellow crewmembers.

Cold weather operating tips could go on and on. The only limitation of each crewmember's winter operation review is the extent of his or her own dedication as a professional. Doing a job safely brings a continuous reward—called longevity—plus the satisfaction of a job well done. When we enjoy that kind of satisfaction, we are genuine professionals!

—adapted from Delta Airlines' *Up Front*

**by Lt Col Gerald R. Denny**
**39 TAS Pope AFB, North Carolina**

Do you ever get tired of reading flying safety stories where the sharpest young pilot in the squadron tempts fate once too often and splatters himself all over a hillside? Well, I have two short stories in which no one gets killed or maimed, although that was pure luck. Both stories are true and each contains a valuable lesson for would-be "old" pilots.

The first incident took place in 1970 at Hue Phu Bai, Republic of Vietnam. I was a young C-130 aircraft commander with about 1,500 hours of flying time. All my flying had been in the C-130 and most of that had been accumulated in Southeast Asia. I had been flying for "Hilda's Airline" (GCI control) for almost two years; I just knew I could land a fully loaded Herk on a postage stamp, do a

**One person's overconfidence can cause. . .**

# *A Contagious Disease*

180 degree turn, and take off again without even using reverse. The upcoming landing at Hue was going to be a snap—it was daytime, VMC, and I had 6,000 feet of hard-surface runway. When we were ten minutes out, the copilot made the standard radio call to the Hue ALCE folks who promptly came back with some information about repairs being made to the runway. "Be advised the first half of runway 09 is closed for repairs. The landing threshold has been displaced to mid-field. You will have 2,900 feet of usable runway. There are men and equipment on the first 1,500 feet of the runway."

Things were beginning to get interesting. With the load we were carrying, our landing roll (with two in reverse, two in ground idle) was just about 2,900 feet. I wasn't worried because "everyone knew" the airplane landed in a much shorter distance than the charts said. Since I was landing over the closed half of the runway, I could drag in the approach and touch down in the first ten feet of the usable runway. I didn't really need to add 500 feet to the landing roll like the rules said at the time. I knew I could make that landing, but we had an old navigator on the crew who wasn't as confident. He said the cargo probably wasn't all that important and we could always divert into DaNang and drop it off there. The engineer agreed that we were not leaving ourselves any room for error or bad luck. I still had a small streak of caution that hadn't been completely buried by my overconfidence, and so I was about to agree with them. But as I was explaining our plans to the ALCE, they told me that eight other C-130's had landed there already that day with the same type load and "none of them had any problems, but if you can't hack it...". Well, that did it! I wasn't going to abort the mission and look like a weenie, especially since eight other less experienced pilots had managed to land safely. I hadn't seen the runway yet, but I knew I could touch down a little short on the closed portion of the runway if I had to. The copilot told the ALCE we would be on the ground in five minutes.

As we approached the field, I could see the first 1,500 feet of the runway did have some men and equipment on it. There was also a large bulldozer on the runway centerline about 2,000 feet from the approach end. That still gave me about 3,500 feet of runway after I cleared the equipment. The bulldozer kept growing larger in my windscreen, and I could see the driver sitting on top of it. My plan was to clear the bulldozer by about fifty feet and touch down on that part of the runway that was officially closed, but still usable. This would give me the extra 500 feet I needed for my landing roll. Well, everything went according to plan, except I forgot to brief the bulldozer operator. He didn't have the same level of confidence in me that I had. As we got closer to the bulldozer on short final, I could see the operator was wearing a yellow hard hat, had a full red beard, and had large round eyes that were opening wider by the second. Just then, he leaped off the bulldozer and scrambled underneath it. Chuckling to myself at his lack of trust, I continued the approach and made an uneventful shortfield landing.

We had touched down on the closed portion of the runway about 500 feet short of the active, as planned. We managed to stop the fully loaded Herk before going off the other end of the runway. I was so busy congratulating myself on another mission successfully completed that I didn't notice the larger-than-normal reception committee as I pulled into the chocks and shut down the engines. When I stepped down onto the ramp, I realized this group included the bulldozer operator and a few of his friends. This man, who had been tiny and laughable when viewed

**Honorable Mention, 1981 MAC Flying Safety Writing Contest**

from the air, was now a 6' 6", 250 pound, mad-as-hell construction engineer.

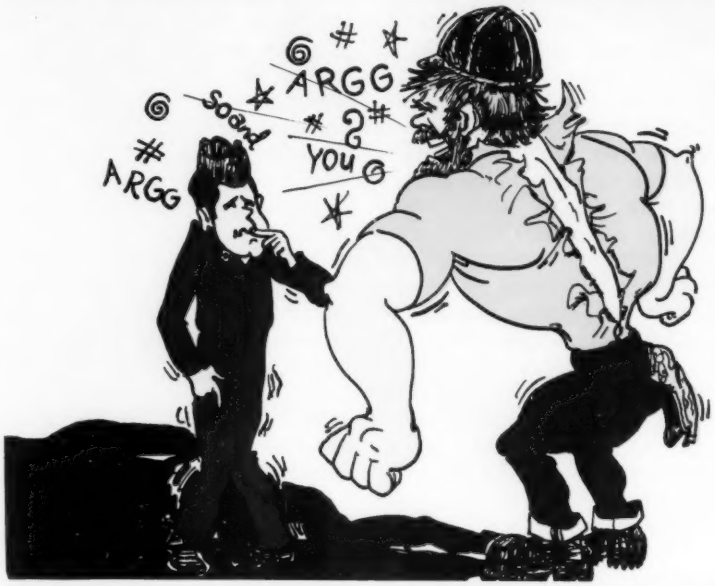
He swore that I had missed his vehicle by only a few inches. He swore that, if he had not jumped off the dozer, he would have been killed. He then swore he was going to kill me. And then he just swore.

My confidence rapidly dissipated into fear. I made profuse apologies, placed my engineer between me and the outraged operator, and retreated to the ALCE.

In the sanctity of the ALCE, I had time to gather my thoughts. Now it was my turn to get mad. I had let myself get talked into doing something that I knew was not safe; I had given away all my margins for error. I really could have killed that bulldozer driver. I could have hit the bulldozer or gone off the other end of the runway. I could have wrecked the airplane and maybe killed myself and my crew. All that just to prove I was as good as those other eight pilots who had landed before me. But to top things off, I discovered those other eight "no sweat" landings the ALCE had taunted me with had all arrived earlier in the day when the winds were different. They had landed in the oposite direction and had 4,000 feet of available runway. My overconfidence and my failure to listen to my crew's advice could have cost an airplane, a crew, and an innocent bystander's life. That was lesson number one.

Lesson number two took place at the same airfield, Hue Phu Bai, Republic of Vietnam. The time was two years later. I was *really* good now. Not only did I have a couple of years in SEA under my belt, but now I was a TAC-trained killer, a C-130 IP with several hundred more hours in the airplane. We were TDY back to "Nam" to win the war one more time.

I had a very good crew. My war stories coupled with my knowledge of how to get in and out of every little airfield in the country, must have convinced the crew they had a good AC.




It was a miserable, rainy night and we were hauling a load of "miscellaneous" from Saigon to Hue. It was probably the same load of miscellaneous I had almost killed myself for two years earlier. Some of us were convinced that a lot of the cargo never really went to anyone, it just stayed in the system to keep us airlifters busy.

Anyway, the ceiling was about 800 feet, and we were flying an ASR approach to good ol' runway 09. There had been reports of aircraft receiving ground fire in the area, so I was flying the approach and everyone else was looking for tracers. When we broke out of the overcast , I could just make out the runway lights. We were too high and too close for a safe approach. I decided to stay visual and make a circling approach back around to the same runway. I didn't like the idea of flying around that low over hostile territory, but I didn't like the idea of getting back up in the clouds and going all the way out for another instrument approach either. My crew agreed. In fact, they *always* agreed with my decisions, which should have been a clue that I was in trouble.

The runway was poorly lit and difficult to see as I made a large, right 360° turn overhead. As I rolled out on final, I was still too close and too high. I had to go around again. Now I was really getting nervous. One low altitude circle over hostile territory was enough to wake up the bad guys. Two of these maneuvers would give them time to adjust their sights. I had to get it on the ground this time. The copilot was backing me up on the approach. The nav and flight

engineer were glued to the side windows. I made a larger-than-normal 360° turn to make sure I would have enough room to find the runway and land.

As I rolled out on final this time, I could see the runway through the driving rain. I was still close and high, but I figured I could force this one down. I called for full flaps and dove toward the runway.

I was hot and long. The plane took forever to touch down. The runway was disappearing under me at an unbelievable rate. My crew didn't seem too concerned, but I was getting worried. I knew I could touch down at the 3,000-foot mark and still stop the aircraft. But something didn't feel right. I couldn't put my finger on it, but something just didn't feel right. It was the sort of feeling you get when you make an assault landing with 50 percent flaps, or almost land with the gear up. The runway was still racing by me pretty fast. I didn't have time to track down the source of my uncomfortable feeling. However, I did recheck the gear and flaps just as I touched down with a little less than 3,000 feet of runway remaining.

Full reverse and max brakes did not slow us down much and the fence at the end of the rain-slick runway got bigger every second. I'm sure that I bent the throttles backwards as I tried to squeeze the last ounce of reverse thrust from the engines. We managed to slow up enough to make a faster-than-normal turnoff at the end of the runway. My legs were shaking so hard that I could barely taxi into the parking spot. I had landed on a lot of short runways, but I had never come as close to going off the end as I had on this relatively long, 6,000-foot piece of asphalt.

I couldn't believe I was the only one on the crew who had been scared by that landing, but I was. They were busy with after-landing checklists and speculating on the availability of decent coffee in the ALCE. I interrupted and asked if anyone had seen anything unusual about the approach and landing. The copilot and flight engineer said I seemed to have been in a hurry to get off the runway, but they figured I must have had a good reason. The nav said he couldn't understand why they had us land on runway 09 with a 20-knot tailwind, but he figured the tower must have had a good reason.

A 20 knot tailwind! Well, that explained why I was so high and so close to the runway and why the landing was so hot and long. The tower had been calling the winds 180° in error, but the navigator's instruments had been giving him the correct wind the whole time. Why hadn't he told me? My nav said he had been busy looking for groundfire and, since there weren't any mountains around to run into, he hadn't been watching his instruments too closely. Besides, he trusted me to fly the approach without his help. Afterall, I *was* the pilot, wasn't I?

That answered my immediate questions about the approach, but I didn't realize until later the real source of my problems. My overconfidence had so infected my crew, they no longer felt it necessary to back me up. They hadn't questioned my sometimes-questionable decisions, or done all those things a crew does that makes it a good crew.

They were relying on me 100 percent. I might as well have been flying a single-seat C-130 for all the good I was getting from my crew, and it was all my fault. My self-reliant, overconfident attitude had turned a good crew into a friendly group of passengers. Pound for pound, I would have been better off carrying extra fuel.

That's lesson number two. Overconfidence is a disease we all know about. What you may not have discovered is that it's also contagious. Overconfidence can infect other crewmembers, maintenance troops, mission planners or anyone else who comes in contact with it. A professional, never-trust-anyone-with-your-life attitude is the preventive medicine that can keep this condition from becoming fatal.

**ABOUT THE AUTHOR**

Lt Col Gerald R. Denny is a 1966 graduate of the Air Force Academy. After earning a masters degree from UCLA and his wings from Reese AFB in 1967 and 1968, respectively, Lt Col Denny went to Clark AB, Philippines. He was then assigned to Pope AFB, North Carolina as an instructor and stan-eval pilot. The former Chief of C-130 Tactics, HQ MAC, Lt Col Denny is now with the 39th TAS at Pope.

**Hurry...Hurry...Hurry! Test your knowledge! Take the official MAC**

# Cold Weather Quiz

Winter has a lot of good things going for it: more thrusties per engine, you don't have to mow your lawn as often and it takes longer for the ole Nomex sauna suit to reach its full E.P.A.-rated goat power. But, all kidding aside, winter weather does have its share of "nasties," to wit: low ceilings, icing, slushy runways, frostbite and so on. We flyers need to prepare to keep the cold out and the heat on. So, *TMF* has provided the following quiz as a sort of BIT (built-in test) of your cold weather knowledge.

Take the general weather quiz first. No cheating! If you have any doubts, though, look up the weather answers in AFM 51-12, Vol II. The specific answers come from the appropriate Dash One. The *correct* answers are on page 31. Have at it, and remember, we might slip in more than one correct answer per question just to be ornery.

1. The most severe structural icing is likely to be encountered in:
   a. Rainshowers in June over Panama.
   b. The climatic hangar at Eglin.
   c. A carwash at Point Barrow, Alaska in January.
   d. Visible moisture - supercooled water droplets from 0 to -20 degrees C.

2. So, Bunky, how do you avoid, or at least minimize, the effects of structural icing?
   a. Don't fly.
   b. Ask the 'gator.
   c. Avoid visible moisture and/or clouds where the OAT is 0 to -20 degrees C.
   d. Climb or descend to an altitude where the OAT is above 0 degrees.

3. If you encountered icing such that even short encounters became potentially hazardous and the use of anti-icing/de-icing equipment or diversion was necessary, what kind of icing would that be?
   a. Bad.
   b. Terrible.
   c. Moderate.
   d. Severe.

4. Down at the local weather shack, you see this symbol ~~Y++~~. That means:
   a. Three kids jumping rope.
   b. Severe rime icing.
   c. Light rime icing.
   d. Vanilla cream icing.

5. You walk out to your C-1XX heavy type transport, and discover some scattered ice on the wings and elevator. Your extensive knowledge of winter weather operations tells you that flight is:
   a. Advised.
   b. Dumb.
   c. Okay if TO gross weight is over 150,000 pounds.
   d. Okay if you "have" to get home.

How'd you do on the general questions? The MAC average or 100%, whichever is higher, we hope. Now let's get down to specific aircraft types. Pick your own area of expertise.

**C-130**

6. You are attempting an engine start with a JP-5/kerosene-type fuel at an ambient temperature below -37°C. What may happen?
   a. The engine may stall and over temp.
   b. Lower than normal peak TIT.
   c. Your hurricane lamp may explode.
   d. JP-5 will freeze below -26°C.

7. You, a flight engineer, and your buddy, a loadmaster, saunter out to the brown-and-green machine one blustery morning in January to find it has been de-iced with isopropyl alcohol which is still dripping profusely off the airplane. What should you do?
   a. Light up a cigarette.
   b. Catch some "drippings"—it works great as a body rub.
   c. Watch out—isopropyl alcohol is a potential fire hazard.
   d. Make like a Russian and drink the stuff.

8. You've just taken off from an icy, slushy runway. What comes next?
   a. Light up a cigar.
   b. Retract the gear, then light up a cigar.
   c. Recycle the gear to reduce the possibility of freezing the gear in the up position.
   d. "Gear up—flaps up—you got it, copilot."

**VC-135/137**

9. The snow/slush is deep on the Andrews ramp today and you must make a sharp turn out of parking. What kind of power do you use?
   a. Inboards, as necessary.
   b. Outboards, as necessary.
   c. Power as required.
   d. Whatever the VIP on board wants.

10. There you are flying along, fat, semi-smart and sleepy, when you encounter moderate icing. How long can you stay in the stuff?
   a. 15 minutes and no longer.
   b. 10 minutes, give or take two minutes.
   c. 20 minutes only.
   d. Beats me. I fly Herks.

11. You manage to put this beast on the ground at "Moldy-hole" and again you find snow/slush on the runways and taxiways. Which of the following procedures is recommended?
   a. Keep the inboards above 60 percent $N_1$.
   b. Exercise the flight controls frequently.
   c. Taxi with the flaps up.
   d. Calculate the exchange rate for the pax.

**C-141**

12. Which of the following statements are true?
   a. Wing anti-ice should be turned on prior to entering clouds.
   b. Empennage de-ice should be turned on after entering icing conditions.
   c. I like chocolate icing.
   d. Rain removal may not be used to remove windshield ice.

13. The minimum power setting required for effective engine anti-ice is:
   a. Idle.
   b. Seventy percent $N_1$.
   c. Seventy percent $N_2$.
   d. Stated in Section 1 of the Dash One.

**C-140**

14. If the wing and empennage de-icing system is inoperative, surface ice can be dissipated by:
   a. Increasing airspeed to 270 KCAS or above.
   b. Using the Heavy Icing position on the timer control to activate the alternative valves.
   c. Decreasing airspeed below 300 KCAS.
   d. What's a C-140?

15. If the landing light on the external tanks becomes iced over, use:
   a. A four-cell flashlight.
   b. The taxi lights.
   c. The aux landing lights.
   d. Your BIC lighter.
   e. Night vision goggles.

**C-5**

16. You had to fly through icing conditions, so you kept your thrust settings at 50 percent $N_1$ rpm or above. In addition, you also advanced each engine to at least 90 percent $N_1$ rpm:
   a. Every six minutes above 15,000 feet and every 10 minutes below 15,000 feet.
   b. Every 15 minutes above 15,000 feet and every six minutes below 10,000 feet.
   c. Every 10 minutes above 15,000 feet and every six minutes below 15,000 feet.
   d. Until you make the pax sick.

17. You're expecting light to moderate icing on descent. You should turn on the engine anti-ice:
   a. Ten minutes before entering icing conditions.
   b. If Major MacZaminer jumps in the seat.
   c. When the icing light comes on.
   d. 10,000 feet above the highest icing level.

**CT-39**

18. An increase in fuel flow and a decrease in rpm with no loss of thrust usually indicates:
   a. Excessive fuel use—clean out the carburetor.
   b. The mice are tired.
   c. Engine icing.
   d. How should I know? My desk doesn't use JP-4.

19. One of your slats has failed to extend—frozen in position by the ice the weatherman actually said would be there. What does this mean?
   a. It will still fly; the other slat will hold the wing up.
   b. Slats went out with George Raft.
   c. Increase your airspeed 15 knots.
   d. Increase your airspeed 20 knots.

20. While trudging over to your trusty (or rusty) mount carrying the 0-9's B-4, A-3 (full of Christmas presents), a case of muscatel and a pear tree (minus the partridge), you see the young airman crew chief applying heated air to the nose gear. You:
   a. Panic, drop the general's stuff in the slush and start crying.
   b. Breathe a sigh of relief knowing tubeless nosewheel tires may go flat when taxiing at temperatures below -20°F unless they're preheated for 10 to 15 minutes.
   c. Tell him to use your battery-operated air compressor; it's quicker.
   d. Run back to Base Ops because the front tire will explode at any moment.

**C-9**

21. Before applying de-icing fluid to the Dauntless Douglas, not to be confused with the Douglas Dauntless, it is necessary to:
   a. Get a fire truck.
   b. Shut down the APU.
   c. Sprinkle on some salt.
   d. Disconnect external power.

22. If icing conditions exist, turn on engine anti-ice:
   a. Immediately before engine start.
   b. Immediately after engine start.
   c. Immediately period.
   d. Just before takeoff.

**UH-1, H-1**

23. When can you fly through known icing conditions?
   a. When directed.
   b. To make it back for "happy hour" at the club.
   c. Never! Prohibited!
   d. Sometimes.

24. Whenever possible, avoid landing on glare ice in order to reduce the possibility of:
   a. Whiteout.
   b. Copilot cardiac arrest.
   c. Damage to skid crossbars due to bending loads.
   d. An imperfect Figure 8.

**H-3**

25. The greatest danger caused by ice accumulation is:
   a. Reduced rotor blade efficiency.
   b. Loss of rescue hoist effectiveness.
   c. Loss of engine power.
   d. a. and c.
   e. What's an H-3?

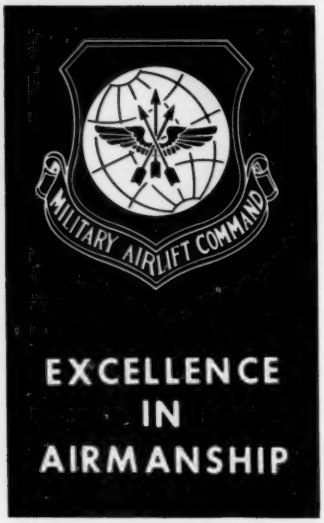
**H-53**

26. If uncomfortable vibrations are encountered due to assymetric ice shedding from the tail or main rotor blades, change:
   a. Altitude.
   b. Airspeed.
   c. Rotor.rpm.
   d. Seats.

27. What can happen if you lose your heater while flying in arctic conditions?
   a. You aren't really asking that question, are you?
   b. You will require more "anti-freeze" at the club that night.
   c. Efficiency starts to go after one hour of flight, and decreases rapidly after that.
   d. Fill out a dropped object report.

Well, how'd you do? If you exceeded the MAC average, give yourself an all expense paid vacation to Fairbanks. But, if you looked up the answers in "the book," you get a double bonus, because getting in the books is the right way to prepare for winter weather.

The answers appear on page 31.



Back row l to r: Capt Randy E. Honnet, IAC; SSgt Steven W. Estes, ILM; SSgt Tommy D. Rickman, FE. Front row l to r: 1Lt Terry L. Lawson, N; Capt Edward L. LaFountaine, CP.

**Capt Honnet and Crew**

Returning from a two-month European rotation, Capt Honnet and his C-130 crew from the 50 TAS, Little Rock AFB, were over Canada when the number one engine oil quantity indicator suddenly showed a rapid loss of oil. This was verified when a visual scan revealed an oil-covered cowling. The crew feathered number one and began a descent to FL 180, the three-engine cruise ceiling. About 25 minutes later, however, the number three-engine gear box oil pressure suddenly began fluctuating wildly and the oil quantity dropped. The loadmaster confirmed the oil loss and Capt Honnet ordered number three shut down as well. With the Hercules 17,000 pounds too heavy for two engine operation, it would not mainain altitude even using max power on the two remaining engines. The crew began dumping fuel and Capt Honnet turned the stricken aircraft toward the nearest airfield, some 35 miles away. Because of the distance, the AC traded precious altitude for airspeed and time. Fuel dumping continued throughout the emergency descent and until they were established on final approach, seven miles from touchdown. Even so, max power was required to mainain final approach airspeed, even in a slight descent. To make matters worse, the nose gear did not lock down until 200 feet above the ground and ½ mile from touchdown. And as if this wasn't enough to occupy the harried crew, a 20-knot direct crosswind with gusts to 30-knots blew across the runway, putting the aircraft in the "caution" zone in the landing wind chart. Now, the crew was attempting an emergency two-engine, heavy weight, no-flap, crosswind landing. But in spite of all this, Capt Honnet and crew made a superb landing. They clearly overcame an extreme emergency with superior flying skill, outstanding crew coordination and decisive actions. Their professionalism saved the lives of 30 passengers and prevented the loss of a valuable aircraft.

**Capt Buechler and Crew**

Seconds before turning final for the "full stop" landing after a night training sortie, Capt Douglas Buechler and his 702 MAS (Assoc) crew suddenly felt the C-141 bank to the right and begin to lose precious altitude. Attempting to counter the uncommanded gyration, Buechler

applied full left aileron, but it had no effect. Instinctively, he then tried increasing power on the two right engines and applying left rudder. These control inputs stopped the right bank and got the Starlifter level again. Correctly diagnosing the problem as a jammed aileron, the crew quickly declared an emergency and climbed to a safe altitude. After entering a holding pattern, the McGuire crew began sorting out the situation and accomplishing emergency procedures. As Capt Buechler said after making a safe and successful landing, "Solving this one was a crew effort." The totally professional actions by the 514 MAW (Assoc) crew clearly demonstrated excellence in airmanship.

**Captain Popper and Crew**

While passing 15,000 feet on climbout, the C-141A, commanded by Capt Shirley L. Popper, of the 4 MAS, suddenly began vibrating heavily, then abruptly yawed to the left. At the same time, the thrust reverser-not-locked-light for number two engine blinked on and the flight engineer noticed a pressure-on light for that particular thrust reverser system. A visual scan confirmed number two thrust reverser was full open. After leveling the airplane and informing ATC of their problem, the crew went through the appropriate Dash One procedures, but the reverser stubbornly remained open. A controllability check was performed and full rudder trim was required for the subsequent emergency landing. The excellence in airmanship displayed by Capt Popper and her McChord crew overcame a hazardous situation and minimized damage to the aircraft.

Back row l to r: Lt Col Robert H. Fischer, CP; Capt Arthur N. Brownell, CP; Capt Douglas J. Buechler, IAC. Front row l to r: TSgt Richard G. Warner, FE; 2Lt Harry F. Maroney, CP; MSgt John J. Bloomfield, FE. Not pictured: Capt Jack M. Uydess, CP; Maj David J. Stepan, CP; TSgt Robert M. Coffey, FE.

Left to right: Capt James W. Patterson, CP; Capt Shirley L. Popper, AC; MSgt Charles N. Reece, IFE. Not pictured: MSgt Ronald Richardson, FEFE; SSgt Albert Contreras, FE; Sgt Mark A. Payne, LM.

# Transall C-160

In 1959, a group of aircraft manufacturers from Germany and France formed an international consortium known as the Transporter Allianz, or Transall. Consisting of Messerschmitt-Boelkow-Blohm, VFW-Fokker and Aerospatiale, their objective was to design and produce a new medium-range tactical transport based on both French and German government requirements. The C-160 was the fruit of this international effort. Some of the basic characteristics designed into the big Transall were its easy conversion from troop carrier to c engine simplicity and rugged construc aircraft of this type, the C-160 has a kn ground loading, spoilers for roll contro fighter jocks) speed brakes on the upp these features enabled the big transpo requirements of hauling a 17,600 poun prepared field over a radius of 750 nau the time the first C-160 made its maide the last one rolled off the assembly lin built for France, Germany, Turkey and

Through its tenure with these airfor itself by outstanding performance! So *Armee de l'Air* decided it needed 25 m The result was the reopening of the pr France in 1979. And though the basic

Tom Laughlin '81

## Allied Airlifters

e its shoulder mounted wing,
r to cargo configuration, twin-
struction. Also unique in an
a kneeling landing gear for easier
ontrol, and (to the delight of
upper and lower wings. In all,
nsport to meet the original
pound payload from a semi-
nautical miles unrefueled. From
naiden flight in February 1963 until
ly line in 1972, 178 aircraft were
and South Africa.
irforces, the Transall has proven
e! So much so, in fact, the French
25 more of the rugged airlifters.
ne production line at Toulouse,
asic aircraft remains virtually

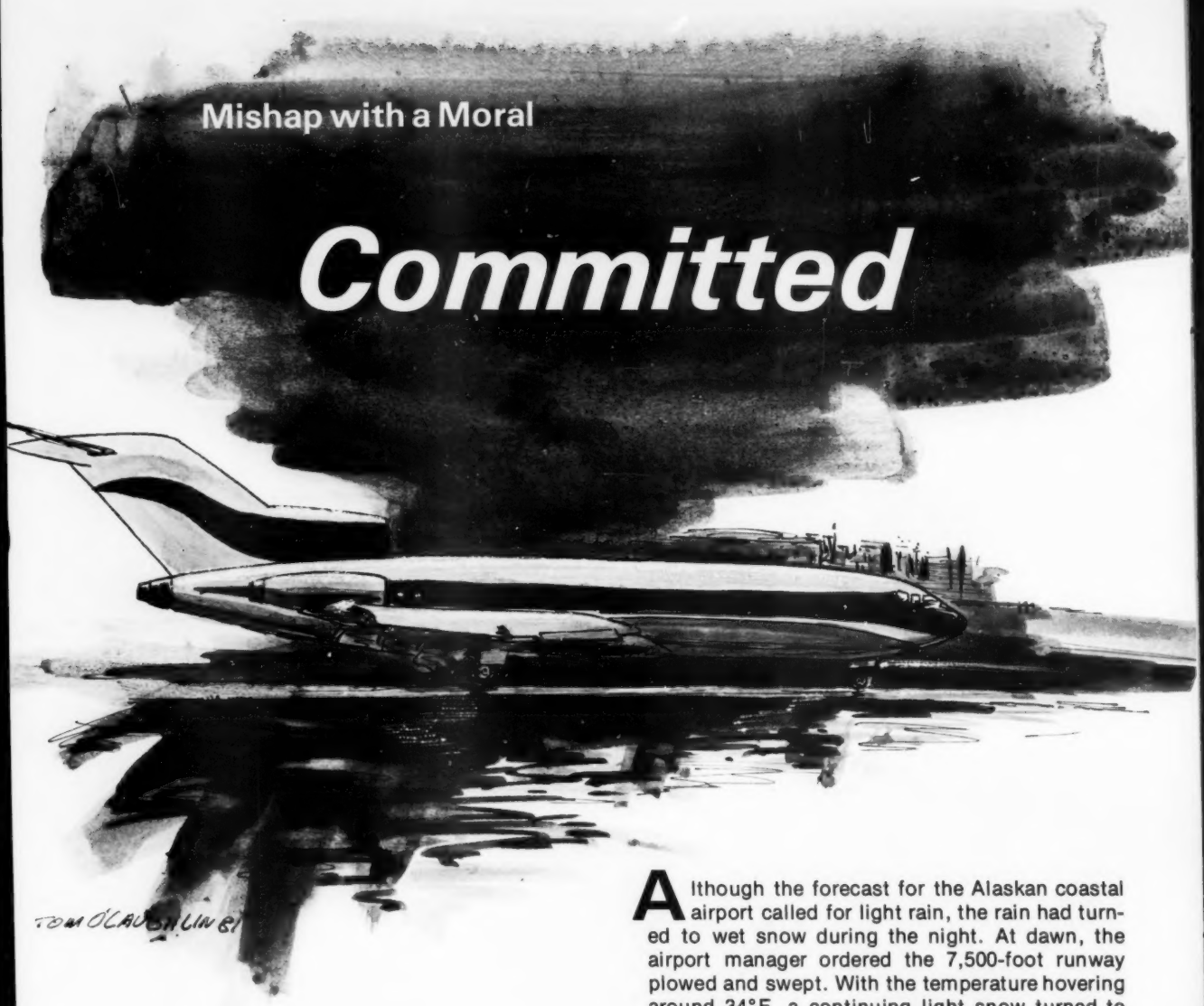
unchanged, some improvements have been incorporated into the new model, designated Transall 201. Among the new features are a 4-meter-long fixed in-flight refueling probe, a new center section wing tank increasing total fuel capacity by approximately 2,000 gallons and improved avionics. Ten of the 25 new Transalls will be equipped with hose and drogue in-flight refueling capability in the lengthened port gear pod. Thus, the versatile aircraft takes on the added role of tanker. Speaking of versatility, there is now growing interest in a maritime patrol version of the venerable C-160, designated C-160 SM.

The Transall C-160 is not totally unlike the Lockheed C-130. Both aircraft carry similar payloads: 93 troops for the Transall versus 92 for the Hercules; 61-81 paratroops for the C-160 compared to 62 jumpers for the C-130; and 62 litters for the Allied Airlifter instead of 74 for the "Lockheed legend." The big difference between the two, aside from the number of engines, is speed and range: approximately 270 knots and 2,400 nautical miles for the C-160 compared to 300 knots and 4,000 nautical miles for the C-130H. The new Transall 201, however, will have a greater range—almost 4,800 nautical miles—compared with the original C-160.

Other specifications include: Wing span: 131 feet Length: 106 feet Height: 38½ feet Empty wt: 63,400 pounds Max T-O wt: 108-250 (C-160) pounds Service ceiling at 99,000 pounds: 27,900 feet Engines: Rolls-Royce "Tyne" rated at 6,100 shp each.

Mishap with a Moral

# Committed



Although the forecast for the Alaskan coastal airport called for light rain, the rain had turned to wet snow during the night. At dawn, the airport manager ordered the 7,500-foot runway plowed and swept. With the temperature hovering around 34°F, a continuing light snow turned to slush as soon as the heavy flakes touched the asphalt surface. The runway braking action was reported as "poor."

Meanwhile, a commercial jet with 43 passengers and a crew of seven was descending through 10,000 feet for an approach to the airport. ATC cleared the B-727 to contact the Flight

Service Station which served the airport (it had no control tower). The FSS advised the flight of the worsening weather conditions and of the reported runway braking action. Shortly after this, the crew began an ILS approach. Just after they reached the 17-mile DME fix the captain sighted a familiar island on the final approach course. He then abandoned the ILS and continued the approach visually. The aircraft's true airspeed was still above 225 knots, and its altitude was 2,100 feet AGL only 8.2 nautical miles from touchdown.

Two ground witnesses, who were also pilots, saw the aircraft when it was between 500 and 700 feet above the ground. It appeared to be in level flight with the landing gear still up. The aircraft appeared to be "fast" for that portion of the approach. They saw the nose gear in transit and later stated that it appeared to be completely down only when it crossed over the first two approach lights (3,000 feet from the runway threshold). Another witness, on the fifth floor of the terminal building, saw the aircraft when it was about 25 feet over the runway. This witness stated the aircraft appeared to be going "very fast." He also said it touched down about a quarter of the way down the runway, bounced slightly, landed again on the nose gear, then began porpoising until past midfield.

The captain deployed the ground spoilers, reversed the engines and applied the wheel brakes. Suddenly realizing that the braking action was indeed poor, the pilot decided to execute a go-around. He retracted the ground spoilers, called for 25° flaps, and attempted to obtain takeoff thrust. The thrust reverse mechanism did not disengage fully and forward thrust couldn't be obtained. He then applied full reversing and quickly moved the thrust levers to "idle," then reapplied reverse thrust and again deployed the ground spoilers in an attempt to slow the aircraft. When it became apparent that the aircraft could not be stopped on the runway, he turned the 727 to the right and raised the nose.

The aircraft passed over a gully and a service road beyond the departure end of the runway. The left wing hit the localizer antenna array support structure, and continued striking large rocks and tree stumps as it careened off the asphalt. It then came to rest in a ravine, 700 feet past the departure end of the runway and 125 feet to the right of the runway centerline. The fuselage broke into three main sections. The left wing remained attached to the fuselage, but the right wing separated completely. Both the nose gear and main landing gears were sheared off. One passenger died, and 32 people were injured and the aircraft was completely destroyed by the impact and subsequent fire.

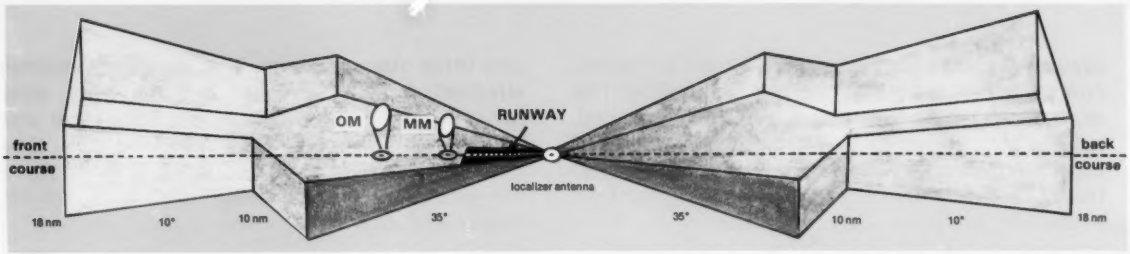
**Analysis**

National Transportation Safety Board (NTSB) investigators could find no evidence of mechanical or structural failure. Neither could they find any evidence of hydroplaning. Although the braking action was "poor," they determined the aircraft was capable of stopping on the 4,200 feet of runway remaining after touchdown.

What then caused the accident? The NTSB did find strong evidence of a poorly planned and poorly executed approach, and concluded that "the probable cause of the accident was the captain's faulty judgment in initiating a go-around after he was committed to a full-stop landing following an excessively long and fast touchdown from an unstabilized approach." Of course, had the pilot continued the ILS, and not gone "visual" so early, the approach may have been more stable. Next, the captain's attempt to make a go-around was prevented because the higher-than-normal airloads on the thrust reverser doors prevented them from retracting. Because of the time (and runway) wasted in the attempted go-around, the pilot was unable to stop the aircraft in the remaining runway. In short, the captain should never have put the aircraft down on the runway after such an unstable approach. Because of the excessive speed and long touch down, once on the ground the pilot was committed to the landing. His go-around attempt became a futile and confused effort to salvage the situation.

Besides the captain's faulty judgment, NTSB officials also noted the lack of strong intervention by either the first officer or second officer (see Aug 80 *TMF*, "Second-In-Command"). Pilots in command (or aircraft commanders) are properly vested with quite a bit of power and authority over the crew and passengers aboard "their" airplanes. But this authority does *not* include endangering people's lives, much less crashing perfectly good airplanes.

—Adapted from *NTSB-AAR-76-20*




# Localizer—Front, Back and Then Some

**by Allen Schwab**
**Professional Pilot Magazine**

*This article spotlights the use of the localizer and localizer-type approaches in instrument flying. These are some of the most precise navaids available for a nonprecision approach. Knowing their capabilities and limitations can help us fly "smarter" and therefore safer.*—Ed.

## LOC

The localizer antenna, situated about 1,000 feet beyond the end of the runway, defines the approach course or *front course* of the localizer. Operating on one of 40-odd decimal VHF channels (108.10 MHz to 111.95 MHz), the localizer signal is adjusted to produce an angular width between 3° and 6°. The signal radiates a linear width of approximately 700 feet at the runway approach threshold.

Normally, course guidance is provided throughout the descent path to the runway threshold from a distance of 18 nautical miles (nm) from the localizer antenna. Coverage is assured between an altitude of 1,000 feet above the highest terrain along the course line and 4,500 feet above the elevation of the antenna site. Proper off-course indications are provided to 35° either side of the localizer course up to 10 nm from the antenna. From 10 miles out to the 18 nm limit, the angular area for off-course indications is 10° either side of the course.

## BC

The course line along the extended centerline of a runway in the opposite direction to the front course is known as the *back course*. The same envelope is provided from the localizer antenna. But it's important to remember that the antenna is located at the approach end of the runway served by the back course. The Airman's Information Manual as well as AFM 51-37 both warn pilots not to use back course signals for an approach unless a back course approach procedure has been published for the particular runway and the approach is authorized.

## LDA

The Localizer-Type Directional Aid (LDA) has nearly the same accuracy as the normal localizer. What makes an LDA different is that it is neither aligned with the centerline of the runway it is designed to serve, nor can LDA be a part of a complete ILS. Straight-in minima may be published where approach course alignment is within 30° of the runway centerline. Otherwise, only circling minima apply.

## SDF

The Simplified Directional Facility (SDF) is a localizer-type installation that operates within the same VHF frequency range as any localizer. Although it may be used like a normal unrestricted localizer facility, some important differences exist. These should be known by any pilot attempting an SDF approach.

First, the SDF antenna may be offset from the runway centerline. This angle of convergence, which should be determined by reference to the approach procedure chart, is usually not more than 3°. The pilot following an SDF offset approach course beyond the runway threshold will be led to the SDF antenna site rather than along the runway centerline. Second, the SDF signal is not adjusted to an optimum linear width as is the localizer. The signal emitted from the SDF transmitter is fixed at either 6° or 12° of width to

provide maximum flyability and optimum course quality. The SDF course may be a good deal wider, resulting in far less precision, than either an unrestricted localizer or an LDA.

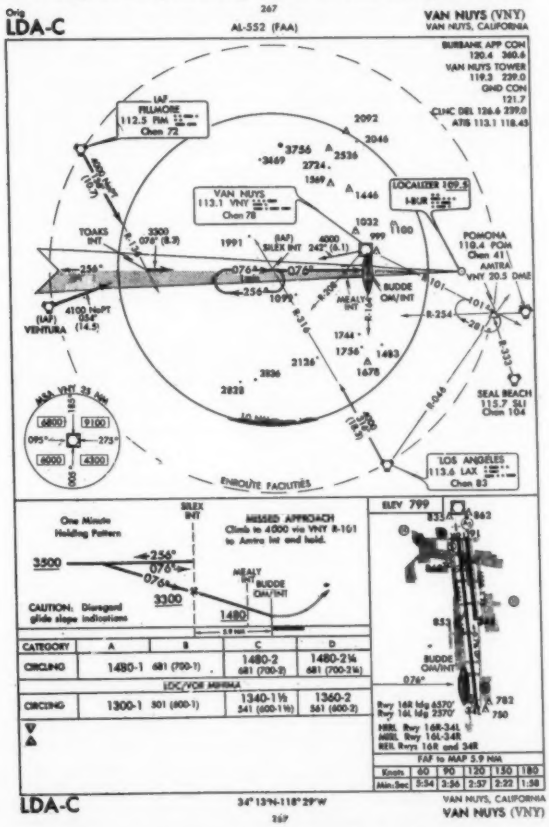
**Flying The Approaches**

Piloting techniques for localizer-type approaches include some basic steps. Remember, the localizer antenna provides no bearing information (no needle on an aircraft instrument will point to the localizer). The pilot must transition to the localizer course by using a transition fix, procedure turn, radar vector, arc or other maneuver. A familiar trap that snares many pilots involves a lack of understanding of localizer signal coverage. Proper off-course indications are unreliable between 35° to 90° either side of the localizer course. Any instrument indications of possible course guidance in these areas should be discarded by the pilot.

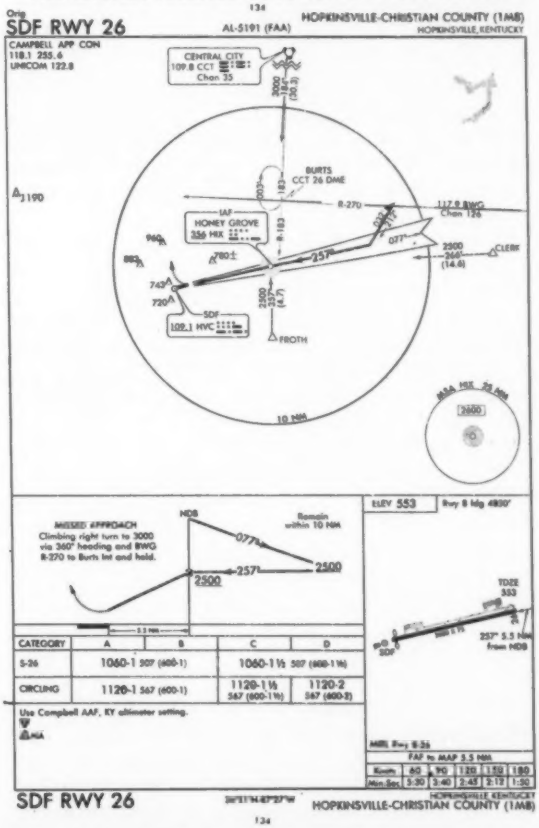
As with most instrument approach procedures, the degree of planning prior to reaching the final approach fix (FAF) determines success or failure of the approach. Slowing the aircraft to the low altitude instrument maneuvering airspeed and then completing the localizer intercept will help you avoid "S"ing down the localizer course. A planned intercept angle of 30° to 45° becomes quite effective if you've slowed down. Any corrections for staying on the localizer course should be small: five degree heading changes or less should be plenty in most cases.

Intercepting the localizer back course is a problem for many pilots because they lack a complete understanding of course sensitivity and cockpit instrumentation. Remember, the localizer antenna is located at the approach end of the runway when you're flying inbound on the back course. Instruments and their associated indications become increasingly sensitive and small deviations look large, commonly resulting in overcorrection and "snaking" either side of the course centerline.

The aircraft localizer receiver is interfaced with

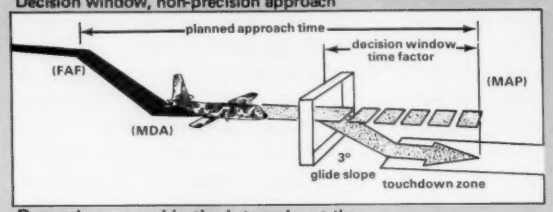



LDA-C—A circling approach to Van Nuys, California. Remember, an LDA may also have straight-in minima.




SDF-RWY 26—Close to Ft Campbell, this is one of many in the low altitude approach books.

Decision window, non-precision approach




Remember, your objective is to arrive at the MDA well before the MAP.

cockpit course deviation instruments (CDI, HSI, etc.) to present a completely "directional" picture for most high performance aircraft. That's why it's important that the published front course be selected for all types of localizer approaches. The localizer receiver simply detects the aircraft's position relative to the 150 Hz versus 90 Hz cycle sides. When you've deviated from that on-course position, the HSI or CDI presentation will provide directional guidance to the localizer course only if the front course has been selected.

**Approach Configuration**

Scheduling the necessary changes of aircraft configuration and corresponding airspeed must go hand in hand with completing the descent (if required) to the altitude. Knowing the distance from the FAF as you complete the localizer intercept is a big help.

One big no-no is an ATC vector that puts you within a mile or so of the FAF for the localizer intercept. Avoiding the rush caused by the close-in vector is a simple matter of maintaining control of the situation where it belongs—in the cockpit. If you're being radar vectored for a localizer intercept, advise ATC you'd like at least a three mile "turn on."

A good rule of thumb is to configure your aircraft and reduce your airspeed within two nm of the FAF altitude. If you must descend to the minimum FAF altitude after completing the course intercept, then begin to configure earlier (three miles or so) and use the "dirty" aircraft configuration to control airspeed during this descent phase. (Of course, at places like Frankfurt, or other busy airports, you may have to stay "clean" longer to comply with ATC or noise abatement restrictions.) As with all non-precision instrument approach procedures, the secret is to arrive at the FAF on course, at minimum FAF altitude, and fully configured. In addition, you need to be at final approach airspeed for the descent to the published MDA.

Being in a "stabilized" condition at the FAF helps the pilot. First, since the pitch/power interrelationship has been established, the pilot can better make minor corrections to the localizer course. Second, "stabilized" flight at the FAF allows time for planning. On some approaches, timing of the final approach phase may be required to establish the missed approach point (MAP). A "stabilized" condition at the FAF also allows timing to become more accurate. Third, it makes "stepping off" into the descent of the final approach phase a much more controlled maneuver.

**Decision Window**

The critical final approach phase is best divided into two distinct subphases. The first subphase is the descent on the localizer from the FAF to the published MDA. The goal is to arrive in a stabilized condition on course at the MDA prior to the MAP. How much prior? The answer is at the visual descent point - VDP, (see "ASR" in July 81 *TMF*) or in its absence, at the "decision window." For high performance aircraft that window permits a 4° descent from the FAF to the MDA, or a descent of approximately 1,000 fpm.

This rather specific descent profile from the FAF allows for more pilot attention to any off-course deviations. Remember, as you near the localizer antenna, instrument sensitivity tends to amplify even small excursions from course centerline, which may induce excessive corrections. This is particularly true for the back course because of the relative position of the antenna to the runway of intended landing.

The second subphase of the final approach is the descent from the MDA to touchdown. This is a visual maneuver closely approximating a 3° glidepath. That's why the VDP or decision window is so helpful. To go fishing for the runway below the MDA is just plain foolish. It's an unprofessional act that has killed many bold pilots. Old pilots, on the other hand, are still around because they know the wisdom of the approach design limits and the value of the missed approach procedure.

The unrestricted localizer, the bonus back course and its cousins, the LDA and SDF, are all valuable non-precision approach aids. A better understanding of their capabilities along with a healthy respect for their limitations (and yours) will add more to your "bag of tricks" when it's time to shoot that non-precision approach under instrument conditions.

—Reprinted courtesy of *Professional Pilot*

# MAC INDIVIDUAL FLYING-HOUR MILESTONE AWARDS

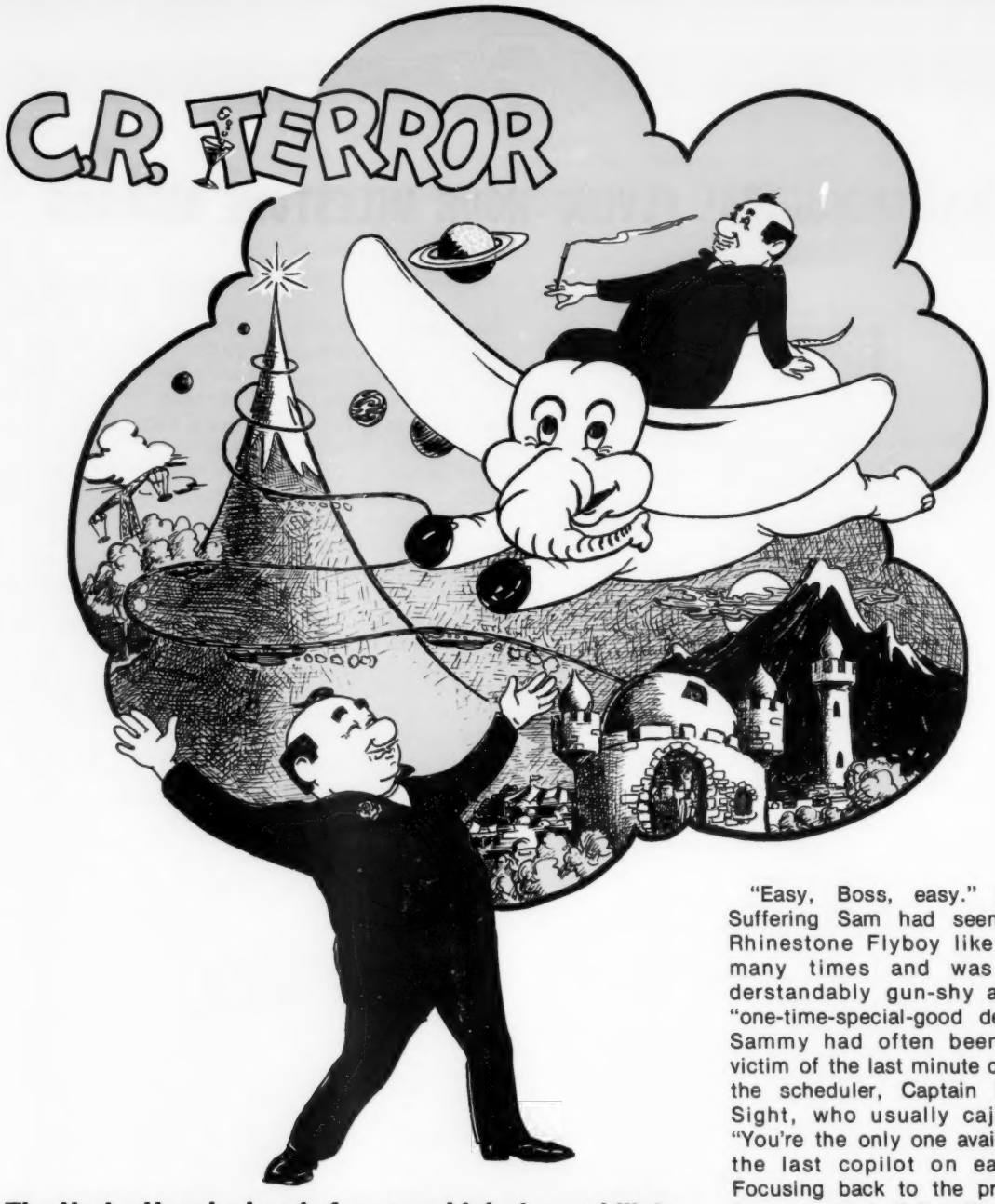
SMSgt Dewey L. Morgan, 158 TAS
MSgt John P. Beckman, 312 MAS

Lt Col Neil B. Madden, 729 MAS
Lt Col John E. Tabor, 183 TAS
Maj John C. Simpson, 75 MAS
Maj Charles M. Slayton, 15 MAS
CMSgt Harold R. Gayer, 15 MAS
SMSgt Glenn C. Lutz, 14 MAS

Col Wesley L. Robertson, 730 MAS
Lt Col Philip E. Bay, 61 TAS
Lt Col Glenn T. Caldwell, 61 TAS
Lt Col Joseph Denegre Jr, 337 TAS
Lt Col Joel H. Hollingsworth, 172 TAG
Lt Col Terry L. James, 86 MAS
Lt Col Thomas J. Kulinski, 61 TAS
Lt Col Louis J. Malucci, 328 TAS
Lt Col B. L. Mitchell, 40 TAS
Lt Col Douglas B. Morey, HQ 109 TAG (ANG)
Lt Col James P. Morgan, 7 MAS
Lt Col David F. Tintle Jr, Det 4, 1402 MAS
Lt Col Freddie M. Tsuhara, 17 TAS
Lt Col Ralph E. Weida, 22 MAS
Maj James F. Davidson, 61 TAS
Maj William C. Dodson, 61 TAS
Maj Jesman A. Hales, Det 3, 1402 MAS
Maj John H. Hayes, 40 TAS
Maj David W. Jurenko, 153 TAG
Maj Robert V. Jurasek, 61 TAS
Maj James R. Polizzo, 702 MAS
Maj Douglas D. McDaniel, 313 MAS
Maj William S. Whiteman, Det 3, 1402 MAS
Capt Peter J. Nelson, 41 MAS
Capt James H. Waddell Jr, 21 TAS
CMSgt Harold J. Powers, 702 MAS
SMS Franchet Johnson, 86 MAS
SMSgt Toy C. Owen Jr, 17 TAS
MSgt Donald R. Anderson, 185 TAS
MSgt Robert W. Brown, 40 TAS
MSgt Joseph O. Castaneda, 8 MAS
MSgt Ernest F. Haslett, 17 MAS
MSgt Kelly M. Jones, 772 TAS
MSgt Brian M. Prudence, 97 MAS
MSgt Billy F. Robins, 14 MAS
MSgt Gerald D. Wood, 61 TAS
TSgt Charles P. Bellomo, 328 TAS
TSgt John V. Bricker Jr, 17 TAS
TSgt Sylvester Lumpkin, 375 AAW
TSgt Percy L. Raleigh, 86 MAS
TSgt Stanley Richardson, 17 TAS
SSgt John A. Rawlings, 36 TAS

Lt Col Donald E. Morrissey, 1 HS
Maj Billie D. Tedford, 1550 FTS
Capt William K. Harris, Det 3, 37 ARRS
Capt Stephen F. Kranz, Det 5, 37 ARRS
Capt William J. Moore, 1550 FTS
Capt Denver L. Pletcher, 1550 FTS
2d Lt David P. Gardner, Det 4, 37 ARRS
TSgt Albert T. McCall, 1550 FTS
TSgt David L. Scandalito, 326 MAS
SSgt Roderick Batalon, 1 HS

(ranks and units are those at time of award).




## The Herky Honcho heads for some high-desert hijinks.

Pack your bags, Sammy m'boy." The Tac-Airlift Titan seemed more gung-ho than usual as he spied his long suffering copilot in the squadron ops center. "We're off for Fantasy Land, Cal-i-forn-i-a, the land of the free and home of the Medfly. Look alive, Sammy. Up and at 'em."

"Easy, Boss, easy." Long Suffering Sam had seen the Rhinestone Flyboy like this many times and was understandably gun-shy about "one-time-special-good deals." Sammy had often been the victim of the last minute call of the scheduler, Captain Linus Sight, who usually cajoled, "You're the only one available, the last copilot on earth!" Focusing back to the present Sammy asked C.R., "Besides, sir, where does it say 'Fantasy Land' on the scheduling board? All I see is KDYS-KBLV-KMKE-KMXP-KSBD."

The Overweight Orator bellowed, boomed and fumed, "Sammy, Sammy, Sammy!

KSBD is 'Fantasy Land' or, hoff, coff, it might as well be. Anyway, with my ambidextrous ability at autobahn antics, the minute hand of the old Rolex Oyster won't make a complete circuit before we'll be there. Heads up, lad. Why, we're as good as on top of Spacey Mountain!"

The right-seater began to grasp his Mischievious Mentor's meaning. "Does the frag actually indicate an RON at Morton?" Sam wondered aloud, peering at the itinerary. "Current Ops must have made this schedule under a full moon, look, 30 hours on the ground to boot? Who do we have to ki-- uh, what do we have to do?"

"Why, nothing we can't handle, Sammy m'lad," C.R. explained as he pretended to understand the MACisms on the itinerary from the Current Ops folks. The Field Grade Fumbler usually only skimmed the "fairy tale" just long enough to see where he would RON. He continued, "After we take the wing commander to the 'puzzle palace' at Scott, it'll be on to Milwaukee for an ERO of some "gyrene" reservists. Then it's onward to 'Fantasy Land.' " The Portly Pilot could see himself behind the controls of the "Dumbo, the Elephant" ride which was his favorite.

Sam perused the order from "on-high" carefully, looking for the fine print the Melodramatic Major often overlooked. "Do you know where this KMXP—29 Coconuts is? Sounds like it might be a Navy base, Boss."

C.R. reddened slightly as he pretended to search the paper for further instructions. "Ummm. Ahhh. Uh, unhhh. Oooooh."

About that time the assistant operations officer, otherwise known as "Barrel," rolled through the ops center, looking somewhat puzzled. "Sounds like someone is either getting a tooth pulled, or reading their itinerary from Current Ops?" Barrel never minced words with anyone. "By the way, Major Terror, you'd better brush up on your short-field procedures. Twenty-nine Coconuts Expeditionary Air Field is a toughie. Quite honestly, you were not my primary choice as AC for this mission, but you really were the only semi-qualified airland-current pilot left in the squadron. And you will please bring me back a whole, completely intact H-model Herk. Is that clear enough?"

"Indeedy do, Barrel ole boy." The Magnificent Major was never taken aback for very long and the half-stern lecture didn't even add another fold to his already anomalous anatomy. "Why I seem to remember it was I who taught you how to put the old Super Connie into a short field—you were a brand new shave tail and I was an IP. Remember, Barrel?"

"How could I forget?" The assistant ops officer's face seemed to pale at memories long since forgotten or at least suppressed. "You tried to show me how to reverse all four props—while still 10 feet in the air. Besides ruining one perfectly good flight suit, it took me eight years and 5,000 hours to get all those bad habits behind me.

"Well, perhaps I did rush the flair and transition a bit, but at least we walked away from the wreckage." The Silver-tongued Fox never missed a beat as he eased himself out, "Now if you gents will excuse me, I must retire for a Terrorific 'tini or two before tomorrow. Tassles awaits at the club."

The next day did go smoothly. It went so smoothly, in fact, Sam, Blinky, Max Torque and Ty Downs could hardly believe it. The weather had been good and even C.R.'s performance had been exemplary. Even the wing commander was pleasantly surprised.

"Major Terror, that was a beautiful flight. Keep up the good work," Colonel Raver complimented.

"Thanks, colonel. It did go smoothly, didn't it? Obviously the product of superior technique, eh what?" interjected the Ace of Airlift.

Sammy mumbled to himself, "Don't blow it, Boss, don't blow it."

Amazingly, C.R. ceased his rancor, popped the door open on the DV sedan and gracefully assisted his boss into the back seat. Even the salute was halfway snappy as the car sped away from the airplane.

"How long can he possibly keep this up, Sammy?" wondered the awestruck nav.

"I don't know, Blinky, but I hope it'll continue through tomorrow night. Twenty-nine Coconuts can really be a bear." Sammy's thoughts were suddenly interrupted by the Boastful Bumbler.

"Okay, crew, it's a late takeoff tomorrow, so everyone remember your circadian clocks. Stay up late, go to bed late, get up late and we'll show those weekend warriors a thing or two about night desert landings." The Herky Honcho continued with an oration of do's and don'ts for the coming night. "And don't drink to excess, m'lads. You know my rules on that are strict."

"By the way, sir," Blinky interrupted, "where will you be tonight?"

"Glad you asked that

question, m'boy. I promised Joe McIgfee, my favorite headquarters bartender, that I would teach him how to mix a genuine Terrorific 'tini, a difficult skill to acquire that could easily take up the better part of the evening. And my 9-level taste buds are the only ones that can discern a successful attempt. It's my sacred duty."

Many hours later, Sammy's alarm brought him back to life. As he fumbled for the shutoff he mumbled, "Ought to be getting alerted about now." And even as he spoke, the dreaded knock came a tap, tap, tapping.

"Sammy, m'lad? Wake up. We're alerted!" came the melodious tones of the Terrorific Tenor.

"Okay, Boss, okay, I'm up. How long have you been awake?"

"Been up for ages, Sam. Got a grand total of four hours last night. Been doin' that since way back in C-47s," the Early-rising Egoist explained. "I am practically immune from 'Mischievous Morpheus' and his heavy lidded hijinks. Now, up and at 'em. We can't keep the Marines waiting. Neither rain, nor sleep, et cetera, et cetera."

The arrival and departure from General Mitchell Field in the city known for brew was as smooth as silk. By now, Sam, Blinky, Max and Ty were being lulled into a false sense of semi-security. After all, the last two approaches and landings were almost flawless, and that was indeed extraordinary for the Airways Airedale. Even so, the dream wouldn't last much longer as Sammy and the crew were about to discover. No sonner was the gear up and locked than C.R.'s lights went out—asleep for the duration.

"You know, I didn't think the Major's brilliant performance could last much longer," conceded Blinky. "Do you think he'll be alright by the time we get to 29 Coconuts?"

"Well, he'd better be," interjected the loadmaster. "This Marine 0-6 back here was emphatic about getting to the landing zone on time and on the first try. Something about an O-R-E or whatever."

"Who knows," reasoned Max, "maybe the Chief can make it three good landings in a row. Bigger miracles have happened, you know."

The long suffering right-seater shook his head, then asked, "By the way, nav, how much longer to the IAF, two or three hours?"

"Two hours plus ten minutes will put us right on top. Looks like the winds have really died down up here. And I think the Boss might have been counting on a good 7 hours enroute. We'll be no more than 4.5 at most. I wonder how that's going to effect his metabolism?"

"We'll know shortly," surmised Sam. "Anyway, let's have a look at that terrain chart. Seems to me there are some high hills in the high desert. Got the special instructions, engineer?"

"Roger that, copilot," answered Max. "There's no circling east or north of the LZ. There's also more than one LZ down

there with only slightly different runway headings. And it says there may be a great deal of night maneuvering."

"I know what you mean," said Sam. "Back us up all the way. After all, you've got the best seat in the house."

The conscientious quartet reviewed their individual and collective crew procedures while C.R. reviewed the inside of his eyelids, looking lost and befuddled even in sleep. And just as Blinky had predicted, the Marine-ladened Herk approached 29 Coconuts VOR right on schedule.

"Chief. Hey, Chief. Hey Chief!" After several shakes and rattles, Sam finally shook the Somnambulistic Skipper into consciousness.

"Before-landing checklist-...flaps and spoilers out...throw out the anchor...Arrgh!" Ever the calm and cool one, C.R. barked out the orders over hot mike, deafening everyone on headset.

"Right, Boss. Descent checklist. Crew briefing," said Sammy, beginning the checklist in proper sequence.

"Okay, laddies, here we go. I'm gonna plant this brown-and-green beast right in the zone the first time. Typical Terrorific touchdown. Any questions?"

Just a few, pilot," remarked Sam. "How about talking through the missed approach procedures. And what if you experience some landing illusions? Don't you need to review the landing speeds? And what if. . . ."

"Sammy, I am surprised at you," the Miffed Major scolded. "Why, the really great ones don't need to spell out every minute detail of the approach and landing." "Besides," he continued, "I was on the first Herk to land on the *Forrestal*. Why, Leo Sullivan himself—" The Rotund One was cut off in mid-boast by LAX Center.

"Heavy 62, descend to cross 29 Coconuts at 4,000, and the Palm Springs altimeter is 30.01. Contact the 29 Coconuts tower on. . . ."

Sammy copied the clearance and read it back dutifully while C.R. continued his mumbling monologue. Finally, convincing his boss that they had indeed been cleared to descend, C.R. started the Leatherneck-carrying Herk down.

"Dive! Dive! Dive!" shouted the Herky Honcho, momentarily becoming a U-boat skipper.

"My ears! My ears!" winced Sergeant Downs. "Take it easy, will you, sir?"

"Almost there, and I've got the LZ lights. Prepare for landing, crew. Gear down, flaps 100 percent – Whooooa mule!" C.R. honked the heavy Herk around for a lineup on final. Even as he set up for his "standard" assault glideslope of 8°, the lights of the "LZ" began to move toward him faster than the 4,000 feet-per-minute rate-of-descent could handle.

"Aren't those lights moving, Boss?" The crinkle in Sammy's brow increased with the thought of landing on a "moving" LZ.

"Nonsense! You're experiencing the infamous 'deep hole' and 'shooting star' landing illusions, m'lad. Happens to the best of us," C.R. informed his rock steady second-seater.

But even as C.R. spoke, the C-130's landing lights picked up the faint outlines of several big Marine-green "deuce-and-a-half" trucks in a neat column of twos, proceeding in convoy formation along a desert trail. The fact that the heading was 90 degrees off the original LZ heading had never entered the Flakey Flyboy's fickle faculties.

"Go around, Boss, go around!" Sammy and Max instinctively yelled in unison. Max pushed the throttles and Sammy yanked the yoke as they struggled to break the hurtling Herk's descent rate.

"Omigosh! Warp factor 9, deflector shields up, full speed ahead, right full rudder—Ugggh!" Ever in complete control, C.R. pulled with all his might to level the C-130. Still, it wasn't enough to keep the humbled H-model from putting a neat pair of rubber tracks on one of the desert diesels. Sammy saw several Marines dive for the sand as he felt the plane settle, scuff and then finally begin to climb.

"Pilot, load, I think we might have hit something back there when you pulled all those Gs, and this 0-6 back here wants to know why we're not stopping after that touchdown."

"Oh, no," agonized Sam to himself, "I knew more than two consecutive good landings was stretching things a bit." As the competent copilot requested a gear-down clearance to Morton, he turned to his Errant AC, "Well Boss, I suppose instead of a trip to 'Fantasy Land,' we'll be answering a lot of questions when we land," he said with practiced resignation.

"Could be, Sammy m'lad. 'Fantasy Land' may just have to wait for next week. Did I tell you there's another group of weekend warriors coming out here then and I'm scheduled for that trip, too? In fact, I think we're all going to be on the same crew again," C.R. mused with evident delight.

Poor Sammy choked back a spontaneous whimper just enough to observe forlornly, "Wonderful, sir. Just wonderful!"

# QUICK STOPPERS

## Volant Pheasant

We had just flared to land in our DC-9 when a big pheasant flew out of the grass at the edge of the runway and hit the underside of the wing. After advising the tower, we suggested that the bird be removed from the runway as it was quite large. The driver picked it up and brought it to us. Since it was otherwise undamaged, we took it to our layover point and had the hotel chef cook it for us. The entire crew enjoyed the feast and judged this as one bird strike that wasn't completely bad news.

—Adapted from Delta Airlines' *Up Front.*

## Towering Troubles

As the Herk taxied toward the parking area, the crew recognized they would have to make a right 90° turn, proceed to the north edge of the ramp and make a left 180° turn to the parking spot. As the brown and green flying machine completed the first part of the left turn, the marshaller suddenly realized the right wing would not clear a 50-foot-high light tower located about 30 feet from the edge of the ramp. The excited marshaller then gave what he intended to be a left turn signal, but was in fact a right turn signal. The aircraft commander correctly diagnosed the ground handlers gyrations as a mistake in marshalling and so started a hard left turn. But as the Herk pivoted, the right wing struck the light tower, damaging the wing's leading edge. The tower itself collapsed in a cloud of dust. Failure to insure adequate clearance was definitely hazardous to the health of this Hercules, not to mention the structural integrity of one each light tower.

### *The Pitch That Nobody Caught (Almost)*

Hooray for the copilot, bless him. He's the only one who detected reverse wired trim. As the ever vigilant C-5 right-seater was accomplishing the pitch trim check on the before-takeoff checklist, he noticed the trim indiations appeared to be moving in the opposite direction to his inputs. He called the problem to the attention of the pilot and red-faced flight engineer. Turning the trim indicator upside down was dismissed as a possible solution, and the search for a cause continued. Wonder of wonders, the wires to the pitch trim control panel were installed backwards. Believe it or not, not only did the maintenance technicians who made the installation not "catch" the incorrect movement, neither did the usually "unfoolable" flight engineers. It's a proven human weakness that we often see what we expect to see rather than what is actually there. That's why we use checklists and make extensive checks on systems operation.

—Adapted from 436 MAW *Flying Safety Highlights*

### Roll Me Over

Did you ever fly a plane that had a mind of its own? This particular Starlifter was enroute with its autopilot engaged and all flight control systems operating normally. Suddenly, the aircraft, opting for independent action, began an uncommanded abrupt entry into a slow right roll. The aircraft commander disengaged the autopilot but the roll continued. A visual scan of the ailerons revealed the right aileron to be in the full up position. The aircraft required 50 percent left control wheel throw and full left aileron trim to maintain level flight. The AC selected "tab operable," but this only aggravated the situation. Number one hydraulic system was depowered, improving the control and flight characteristics. The crew declared an emergency and performed an uneventful landing at destination. Ground inspection turned up a broken right aileron power control unit hinge plate. That good advice about "being prepared" is always appropriate, especially when your aircraft decides to take *you* for a ride.

## This is no drill!

Nearing their cruise altitude, a CT-39 crew heard a sudden loud noise and felt an immediate pressure change in the aircraft. Both pilots and the lone passenger immediately donned their oxygen masks. The copilot started an emergency descent from 36,000 feet and the pilot declared an emergency. In the meantime the cabin altitude had climbed to 33,000 feet but then started descending with the airplane. The crew landed the Sabreliner at a nearby base with no further problems. Maintenance inspectors found that the main pressure duct on the aircraft had cracked. Those oxygen drills that we so routinely practice as MAC crewmembers may come in handy when we least expect it.

## Jolly Tree-Trimmer

An HH-53 crew was making a running landing down an inactive runway. Roll out was slightly right of centerline to avoid a solid row of trees on the left edge of the runway. The flight engineer reported a single tree on the right side which appeared to be very close to the main rotors. Before the pilot could stop, however, the engineer reported main rotor contact with a tree branch. After shutting down, the crew discovered a defoliated limb about the size of a pencil sticking out over the runway. Imagine what might have happened if the helicopter had come in a few more feet right of centerline.

## NOTABLE QUOTE

**Use the experience of others, you may never have your own until you need it.**

*—Crosscheck*

# AFTER DEADLINES

MAC CREWS MUST CONTINUE to be vigilant during the aftermath of the Air Controllers' strike. According to MAC Commander-in-Chief, General James R. Allen, the controllers' strike has had minimal impact on Military Airlift Command operations. MAC's response to the National Transportation Safety Board's investigation of the current air traffic control system in the United States has reported that air safety has not been compromised by the current situation. However, in the days immediately after 3 August 1981, some aerial refueling flights were cancelled due to lack of ATC clearance. MAC aircrews have been briefed to emphasize the "see and avoid" concept and be especially careful in flight planning as the FAA began moving back into normal operations. ATC-related delays have increased in MAC from an average of 2 delays per day to 11.3 delays per day, for a similar number of daily sorties. The average delay has increased from 0.6 hours during the pre-strike period to 2.2 hours during the August until mid-September time period. Several domestic air route traffic control centers have prohibited inflight filing of flight plans during the controllers' job action. Feedback from MAC aircrews indicates they are paying careful attention to fuel planning and flight planning in general and that they realize the necessity for placing even greater emphasis on "see and avoid" during the period of increased VFR traffic. HQ MAC/IGF, Directorate of Safety, has begun a MAC-wide ATC crosstell reporting system for those incidents/situations that warrant informing the rest of the command, yet do not fall under the Hazardous Air Traffic Reporting Program (AFR 127-3). The crosstell program has been expanded to include NGB and AFRES flyers. Aircrews are encouraged to report (by telephone or message) ATC problems involving the strike or other ATC matters to HQ MAC/IGFF - Flight Safety, Autovon 638-3102.

ANSWERS TO WINTER WEATHER QUIZ - 1. d; 2. c and d; 3. c; 4. b; 5. b; 6. a; 7. c; 8. c; 9. b; 10. a; 11. b and c; 12. b (c may be true or false); 13. c; 14. a; 15. c; 16. c; 17. d; 18. c; 19. c; 20. b; 21.b; 22. b; 23. c; 24. c; 25. d; 26. c; 27. c.

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**Okay, smart guy! YOU landed it—YOU take it off!!**

*Idea courtesy of MSgt Sam Simmons, Det 1, 1361st AAVS*